

**REMARKS**

Claims 1, 3 to 7, 9 to 16 are pending in the application; claims 2 and 8 are canceled.

**Rejection under 35 U.S.C. 102**

Claims 1, 4-7, 10, 11, 15, 16 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Peo et al.* (US 2,256,479).

Claim 1 has been amended to include the features that between the end face of the rotor vanes and the inner wall of the stator a sealing gap is formed; that the widened section of the rotor vanes increases a gap length of the sealing gap so that a sealing action between the pressure chambers on the opposite sides of the rotor vanes is improved and leakage between the pressure chambers is reduced; that the stator vanes have sidewalls that diverge radially inwardly and match a shape of the sidewalls of the rotor vanes.

Claims 15 and 16 have been amended by introducing the feature that the stator vanes have sidewalls that diverge radially inwardly and match a shape of the sidewalls of the rotor vanes.

The features are disclosed in the specification in paragraphs 0022, 0023 (sealing gap and gap length); paragraph 0007 and 0027 (sealing action is optimized; leakage reduced); paragraph 0024 and drawings (stator vanes/sidewalls matched to rotor vanes).

*Peo et al.* discloses rotor vanes 18, 18' that are widened at their end faces. The rotor vanes taper radially inwardly. However, the stator vanes 16 do not diverge radially inwardly, they taper radially inwardly. Also, the stator vanes do not have sidewalls that match the sidewalls of the rotor vanes: there is no cutout/recess to accommodate the widened section of the rotor vanes. There is no disclosure in regard to optimizing the sealing action and reducing leakage between the pressure chambers by increasing the gap length of the sealing gap. Claims 1, 15, and 16 as amended are not anticipated or obvious in view of *Peo et al.*.

Reconsideration and withdrawal of the rejection of the claims 1, 4-7, 10, 11, 15, 16 pursuant to 35 USC 102(b) are therefore respectfully requested.

Claims 1, 3-5 stand rejected under 35 USC 102(b) as being anticipated by *Folland et al.*

As pointed out above, claim 1 has been amended to include the features that between the end face of the rotor vanes and the inner wall of the stator a sealing gap is

formed; that the widened section of the rotor vanes increases a gap length of the sealing gap so that a sealing action between the pressure chambers on the opposed sidewalls is improved and leakage between the pressure chambers is reduced; that the stator vanes have sidewalls that diverge radially inwardly and match a shape of the sidewalls of the rotor vanes.

*Folland et al.* shows the end face of the rotor vanes as having grooves 52 into which linear seals 54 are inserted. The sealing action between the pressure chambers A, B, C, D of the device is realized by seals 54, for example, between the inner wall of the stator and the end faces of the rotor vanes and the center bore of the housing and the hub of the rotor (see col. 2, lines 62-to 66; see Fig. 16 showing the arrangement of the four seals 54). There is no disclosure in regard to optimizing the sealing action and reducing leakage between the pressure chambers by increasing the gap length of the sealing gap between the inner wall and the end faces of the rotor vanes. There is no need to do so because the device is based on a different sealing concept with separate seals inserted in the end face of the rotor vanes and the bore of the housing.

As discussed in the specification (see paragraph 0007), the special configuration of the rotor vanes increases the gap length between the end face of the rotor vanes and the inner wall of the stator. As a result of the great width of the radially outer section of the rotor vane, the gap length between the end face of the rotor vane and the inner wall of the stator is enlarged so that the sealing action between the two pressure chambers is optimized. The oscillating motor according to the invention therefore has only minimal leakage. This concept is not disclosed in *Folland et al.*

Reconsideration and withdrawal of the rejection of the claims 1, 3-5 pursuant to 35 USC 102(b) are therefore respectfully requested.

**Rejection under 35 U.S.C. 103**

Claims 1, 3-6, 12-14 stand rejected under 35 U.S.C. 103 as being unpatentable over *Ludwig et al.* in view of *Peo et al.* (US 2,256,479).

*Ludewig et al.* disclose a single rotor vane 35 that widens at the end face. The rotor vane taper radially inwardly. However, the stator vane 23 does not diverge radially inwardly, it has parallel sidewalls. Also, the stator vane does not have sidewalls that match the sidewalls of the rotor vanes. There is no disclosure in regard to optimizing the sealing

action and reducing leakage between the pressure chambers by increasing the gap length of the sealing gap; the sealing action is provided by the seal 39.

*Peo et al.* is cited to show that it is obvious to have more than one rotor/stator vane in an oscillating motor.

As pointed out above, *Peo et al.* has stator vanes 16 that do not diverge radially inwardly but taper radially inwardly. The stator vanes do not have sidewalls matching the sidewalls of the rotor vanes. There is no disclosure in regard to optimizing the sealing action and reducing leakage between the pressure chambers by increasing the gap length.

Therefore, *Ludewig et al.* and *Peo et al.* do not make obvious the subject matter of amended claim 1.

Claim 9 stands rejected under 35 U.S.C. 103 as being unpatentable over *Peo et al.* (US 2,256,479). Claim 9 is believed to be allowable as a dependent claim of claim 1.

Reconsideration and withdrawal of the rejection of the claims 1, 3-6, 9, 12-14 pursuant to 35 USC 103 are therefore respectfully requested.

#### CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or e-mail from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on March 3, 2006,

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- 8 -

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